

32. A catalyst suitable for use in hydrocarbon feedstock cracking comprising particles consisting essentially of:

- i) at least 70 weight percent of zeolite; and
- ii) remainder substantially composed of an alumina sol;

said catalyst has a kinetic conversion activity of at least about 3 and a Davison Attrition Index of less than about 20.

33. The catalyst of Claim 32 wherein the catalyst has a surface area of at least about 500 m²/g.

34. The catalyst of Claim 33 wherein the catalyst has an average bulk density of at least about 0.6 g/cc.

35. The catalyst of Claim 34 wherein the catalyst particles have a H₂O pore volume of greater than 0.32 cc/g.

36. The catalyst of Claim 32 wherein the zeolite is at least 80 weight percent of said particles.

37. The catalyst of Claim 33 wherein the zeolite is at least 80 weight percent of said particles.

38. The catalyst of Claim 34 wherein the zeolite is at least 80 weight percent of said particles.

39. The catalyst of Claim 35 wherein the zeolite is at least 80 weight percent of said particles.

40. The catalyst of Claim 32, 33, 34, 35 or 36 wherein the zeolite is selected from at least one zeolite of Y types.

41. The catalyst of Claim 40 wherein the zeolite is selected from USY, REY, REUSY, CREY, CREUSY or mixtures thereof.

42. The catalyst of Claim 40 wherein the zeolite is CREY zeolite.

43. The catalyst of Claim 40 wherein the zeolite is REUSY zeolite.

44. The catalyst of Claim 32, 33, 34 or 35 wherein the zeolite is present in from 70 to 90 weight percent of said particles.

45. The catalyst of Claim 44 wherein the zeolite is selected from at least one zeolite of Y types.

46. The catalyst of Claim 44 wherein the zeolite is selected from USY, REY, REUSY, CREY, CREUSY or mixtures thereof.

47. The catalyst of Claim 44 wherein the zeolite is CREY zeolite.

48. The catalyst of Claim 44 wherein the zeolite is REUSY zeolite.

49. The catalyst of Claim 40 wherein the catalyst is in the form of particulates having an average diameter of from 50 to 150 microns.

50. The catalyst of Claim 49 wherein the zeolite is selected from USY, REY, REUSY, CREY, CREUSY or mixtures thereof.

51. The catalyst of Claim 49 wherein the zeolite is CREY zeolite.

52. The catalyst of Claim 49 wherein the zeolite is REUSY zeolite.

53. The catalyst of Claim 44 wherein the catalyst is in the form of particulates having an average diameter of from 50 to 150 microns.

54. The catalyst of Claim 53 wherein the zeolite is selected from USY, REY, REUSY, CREY, CREUSY or mixtures thereof.

55. The catalyst of Claim 53 wherein the zeolite is CREY zeolite.

56. The catalyst of Claim 53 wherein the zeolite is REUSY zeolite.

57. A catalyst composition useful in cracking of hydrocarbon feedstock comprising

- a) first particulate material composed of at least 70 weight percent zeolite and the remainder substantially composed of alumina sol; wherein said first particulate material has a kinetic conversion activity of at least about 3 and a Davison Attrition Index of less than about 20; and
- b) second particulate material having a kinetic conversion activity of less than 3;

said catalyst composition having a kinetic conversion activity of from at least about 2 to about 3.

58. The composition of Claim 57 wherein the first particulate material has a surface area of at least about 500 m²/g and a H₂O pore volume of greater than 0.32 cc/g.

59. The composition of Claim 58 wherein the first particulate material has an average bulk density of at least about 0.6 g/cc.

60. The composition of Claim 57, 58 or 59 wherein the zeolite of the first particulate material is selected from at least one zeolite of Y types.

61. The composition of Claim 60 wherein the zeolite of the first particulate material is selected from USY, REY, REUSY, CREY or CREUSY type zeolite or mixtures thereof.

62. The composition of Claim 60 wherein the zeolite of the first particulate material is a CREY zeolite.

63. The composition of Claim 60 wherein the zeolite of the first particulate material is a REUSY zeolite.

64. The composition of Claim 57, 58 or 59 wherein the second particulate material has a kinetic conversion activity of less than 1.

65. The composition of Claim 64 wherein the second particulate material is an FCC additive selected from combustion promoters, nickel passivators, vanadium passivators, sulfur reduction agents, nitrogen reduction agents or mixtures thereof.

Remarks

Attorney for Applicants submits this Amendment to distinguish the presently claimed invention from the teachings of the cited references and to place the claims in condition for allowance. Such action is respectfully solicited.

The presently claimed invention is directed to hydrocarbon cracking catalysts useful in fluid cracking catalytic (FCC) applications. The claimed catalysts exhibit very high kinetic conversion activity of at least about 3 which has been recently found useful in specific applications.